

1 (10) ABSTRACT

2 Methods and apparatus for packing, including single pixel data strings, and
3 playback tracking of informative data, e.g., audio signals, associated with
4 graphics. To maximize the signal-to-noise ratio during data recovery, a
5 Read sensor is kept substantially on-center of each data block throughout
6 reading. A Print-and-Read ink-jet embodiment carriage mechanism in
7 conjunction with the paper feed mechanism keeps the Read sensor on track
8 center as misalignment information has been determined beforehand or in
9 real time for active track servoing. Additional functionalities are incorporated
10 in scanning ink-jet class of printers so that they can further operate as
11 informative data recovery or retrieval systems for digitized data on graphical
12 data images. In another embodiment, a digital camera itself is provided with
13 additional functionalities to operate as a recovery and playback device for
14 prints containing informative data.